

**POTVRDA O TIPNOM ODOBRENJU**
TYPE APPROVAL CERTIFICATE**Br / No** **03-001565/031265**

Potvrđuje se da je ovaj proizvod, u skladu s Pravilima za klasifikaciju brodova, Dio 1. - Opći propisi, Odjeljak 3. - Tipno odobrenje proizvoda, odobren za ugradnju na brodove i postrojenja pod nadzorom Hrvatskog registra brodova.

This is to certify that this product, on the basis of the Rules for the classification of ships, Part 1 - General requirements, Chapter 3 - Type approval of products, is approved for use on board ships and installations under supervision of the Croatian Register of Shipping.

TIP I OPIS PROIZVODA:**TYPE AND DESCRIPTION OF PRODUCT:****Remote Control System for Propulsion – MPC800***consisting of:***Central Unit****Control Panels with Transfer Panel – on the Bridge / Fly Bridge / ECR**
(for single or double propulsion, with or without Display Unit)**DP/JS Interface Unit****Local Pitch Control Unit****PROIZVOĐAČ:**
MANUFACTURER:**CATERPILLAR PROPULSION AB**
Andvägen 26
SE-475 40 Hönö, SWEDEN**PROIZVOD UDOVOLJAVA SLIJEDEĆIM PRAVILIMA/PROPISIMA:**
THE PRODUCT MEETS FOLLOWING RULES/REGULATIONS:

Hrvatski registar brodova:	Pravila za klasifikaciju brodova,
<i>Croatian Register of Shipping:</i>	Dio 9. – Strojevi, Dio 13. – Automatizacija
	<i>Rules for the classification of ships,</i>
	Part 9. – Machinery, Part 13. – Automation

IACS UR E10:**DETALJI O PROIZVODU I UVJETIMA CERTIFIKACIJE DANI SU NA POLEĐINI.**
FURTHER DETAILS OF THE PRODUCT AND CONDITIONS FOR CERTIFICATION ARE GIVEN OVERLEAF.**ODOBRENJE VRIJEDI DO:** **2021-01-03**
APPROVAL IS VALID UNTIL:**Mjesto i datum** **Split, 2017-01-03**
*Place and date***M.P.**
(Seal)

Marinko Popović, dipl.ing.

Napomena: Ova potvrda nije valjana ako se proizvod ili način njegove proizvodnje promijenio u odnosu na tipno ispitani proizvod. Proizvođač treba obavijestiti Hrvatski registar brodova o bilo kojoj izmjeni na proizvodu kako bi ishodio valjanu potvrdu.

Note: This certificate is not valid for equipment, the design or manufacture of which has been varied or modified from the specimen tested. The manufacturer should notify Croatian Register of Shipping of any modification or changes to the product in order to obtain a valid certificate.

PODROBNIJI OPIS PROIZVODA:**DETAIL PRODUCT DESCRIPTION:**

MPC800 sustav daljinskog upravljanja porivom je mikroprocesorski sustav koji omogućava proporcionalno upravljanje usponom propelera, brojem okretaja i snagom motora. Upravljanje se može provoditi sa više različitih pozicija na brodu s tim da je samo jedno upravljačko mjesto aktivno u datom trenutku. Sustav se također može integrirati u složenije sustave upravljanja kao što su DP ili Joystick i ETA. Sustav može biti sastavljen od slijedećih komponenti:

The MPC800 Remote Control System is an microprocessor-based control system which provides proportional pitch control, engine RPM and power control. Propulsion may be controlled from numerous control positions with one control position active at a time. System also provide option to integrate with higher level control systems such as DP, Joystick and ETA. System may consists of the following main components:

Central Unit	
EC32244	Standard MPC800M Control System
EC60268	MAK MPC800 Control System
EC61480	2 ME MPC800 Control System
Control Panels	
ED60942	Bridge Control Panel – Single Propulsion
ED61086	Bridge Control Panel – Double Propulsion
ED61089,	ER Control Panel – Lever type RH
ED61090	ER Control Panel – Lever type LH
ED60919	ER Control Panel – Wall mount
Interface Unit	
EC61404	Interface Unit
EC62084	I/O Extension Unit
EC61526	Electronic Unit - Outdoor Panel
ED61747	Electronic Unit Assembly – Outdoor Panel
Local Unit	
EC60854	Local Control Unit panel
EC60853	Local Control Unit

PODRUČJE PRIMJENE / POSEBNI I GRANIČNI UVJETI:**APPLICATIONS / LIMITATIONS:**

Display panel and LCP	Dry Heat Test	55 °C – 6 hrs , +70 °C – 2 hrs
Display panel and LCP	Low Temperature Test	-25 ° – 6 hrs
Lever panel and Transfer panel	Salt mist Test	2 hrs spray and 166 hrs humid storage (IP66)
Display panel and LCP	Inclination Test	±22,5° Static and Dynamic

DOKUMENTACIJA ZA TIPNO ODOBRENJE:**TYPE APPROVAL DOCUMENTATION:**

MPC800M Control System – Layout and Cable Plan, Caterpillar drawing 62087, dated 2016-06-13.,
 MPC800M Remote Control system – Operation and Maintenance Manual,
 Caterpillar MPC800M FMEA, Rev.C1 dated 2015-10-02,
 MPC800 – Factory Acceptance Test, witnessed by CRS on 2016-12-08,
 Environmental test of BRC800 control system – SP Reports P802001 dated 2008-07-11 & PX18028 dated 2012-05-16,
 Environmental test of local control – SP Report PX01818 dated 2010-05-24,
 Vibration test of BRC800 control system– SP Report P802001 dated 2008-07-11,
 EMC tests of system BRC 800 – SP Reports P802001-01 dated 2008-06-27 & FX121640 dated 2012-01-11,
 Console Mounted Devices IP test – DnV Report No. 2009-3449, Rev.01 dated 2009-08-11,
 MPC800M Software description, SW ver. 0304, Rev. A dated 2011-06-03,
 Determination of compass safe distance – SP Report MTkPX02570-01 dated 2010-03-26.

OZNAČAVANJE PROIZVODA:**MARKING OF PRODUCT:**

In accordance with IEC60945 – Marking and identification (The Manufacturer and Type Designation of the product, serial number, date of manufacture, supply voltage, other particulars and software version...).

UVJETI ZA CERTIFIKACIJU:**CONDITIONS OF CERTIFICATION:**

Bitne izmjene u hardveru i softveru moraju se odobriti prije instalacije na brod.

Zapisi o izmjenama moraju se dostaviti HRB-u radi provjere i odobrenja.

Major changes in the hardware and software are to be approved before being installed on the vessel.

The records of all changes are to be forwarded to CRS for evaluation and approval.